DEPARTMENT OF ENVIRONMENTAL QUALITY
Environmental Assessment

Permitting and Compliance Division
Water Protection Bureau

Name of Project: Stillwater Mine **Type of Project**: Underground mine

Location of Project: T 5S, R 15 E, Section 15, 16, 21, 22

City/Town: Nye **County**: Stillwater

Description of Project:

Stillwater Mining Company (SMC) operates an underground platinum and palladium mine in Stillwater County. The mine has been in operation since 1979 and has had an MPDES discharge permit for Outfall 001 since 1986. The mill and underground operations use mine water in a closed circuit. A biological treatment facility is located on-site that treats for ammonia and nitrate-nitrite. The treated water is primarily re-used in the mine.

Until 2003, SMC used Land Application Disposal (LAD) to dispose of some excess water east of the Stillwater River. The LAD was decommissioned in October 2003. Also in 2003, SMC lined the west side percolation ponds (Outfall 004), thereby removing the outfall.

The reissued permit contains limits for the surface water outfall (001 to the Stillwater River) and the two ground water outfalls (002 – Stillwater Valley percolation ponds; 003 – East Side percolation ponds). Outfall 001 has not been installed. The permittee committed to installing an effluent diffuser, should the need arise for said outfall. Mine water discharged from Outfalls 002 and 003 is from the east side porthole and receives primary treatment through a clarifier. The mine drainage is principally coming from old workings, not active mining areas. Monitoring is required at the discharge pipe into each percolation system and at monitoring wells located at the edges of the mixing zones. The previous permit authorized as standard mixing zone for Outfall 002 and a source specific mixing zone for Outfall 003. No changes are proposed in the reissued permit for the ground water mixing zones.

Agency Action and Applicable Regulations:

This action is the renewal of an individual Montana Pollutant Discharge Elimination System (MPDES) permit to mine drainage discharge from three outfalls. MPDES permits are issued pursuant to the Montana Water Quality Act, Title 75, Chapter 5, Montana Code Annotated, the federal Water Pollution Control Act ("Clean Water Act") 33 U.S.C. §1251 *et seq.*, and Administrative Rules of Montana, Title 17, Chapter 30, Subchapters 5, 6, 7, 12, and 13.

SMC holds an operating permit, #00118, issued by the department, pursuant to the Metal Mine Reclamation Act, Title 82, Chapter 4, Montana Code Annotated.

Summary of Issues: The purpose of this action is to regulate the discharges of pollutants to state waters from the permitted facility. The permit includes ground water discharges because of the proximity to the Stillwater River and likely hydrological connection (i.e. impact to surface water). The domestic wastewater is not included in this permit because it is regulated under the MMRA operating permit. Discharges of pollutants to ground water that are not in direct hydrological connection with surface water are except from discharge permits issued pursuant to 75-5, MCA, if the site holds a current MMRA operating permit. Issuance of an individual permit will require that the facility meet effluent limits to prevent pollution. The permit requires monitoring and reporting.

Affected Environment & Impacts of the Proposed Project:

Y = Impacts may occur (explain under Potential Impacts). *Include frequency, duration (long or short term), magnitude, and context for any significant impacts identified. Reference other permit analyses when appropriate (ex: statement of basis). Address significant impacts related to substantive issues and concerns. Identify reasonable feasible mitigation measures (before and after) where significant impacts cannot be avoided and note any irreversible or irretrievable impacts. Include background information on affected environment if necessary to discussion.*

N = Not present or No Impact will likely occur. *Use negative declarations where appropriate (wetlands, T&E, Cultural Resources).*

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?	[N] The wastewater treatment facility and disposal system are existing and constructed. No impacts from or to fragile soils are anticipated through this regulatory action.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	[N] Effluent limits are enforced through the permit and the limits are derived using state water quality standards. The permittee may have to provide treatment, which the equipment and infrastructure is in place, to meet effluent limits.
3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	[N] Treatment and disposal does not have an air quality component.
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?	[N] The wastewater handling, treatment, and disposal will not impact any vegetation. A database search by the Montana Natural Heritage Program identified a range for the small yellow lady's-slipper that intersects the mine area. The lady's-slipper is ranked as "sensitive" by the US Forest Service & BLM and has a state ranking of "S3", which means "potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas".
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	[N] Impacts from this action are not anticipated because the wastewater treatment facility and disposal sites have been constructed and in use for several years. The active mine area (including the location of the biological treatment facility) is in a winter range for the big horn sheep. A database search by the Montana Natural Heritage Program shows species of special concern in the area in and around the mine are: gray wolf, uinta chipmuck, Canada lynx, northern goshawk, brewer's sparrow, grizzly bear, and wolverine The geographic area also intersects areas where the Montana Natural Heritage Program have amassed ecological information. The Stillwater-Flume Creek area is described by the Heritage program as being located at the based of the Beartooth Mnts on the floodplain of the Stillwater River where in conflues with Flume Creek. The mine property has impacted the Stillwater River corridor by channelizing the river and developing the floodplain.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	[N] For the animals listed above, the following special status listings were identified by the Montana Natural Heritage Program: the gray wolf is listed as "endangered" by the US Forest service and "Special Status" by the BLM; both the Canada lynx and grizzly bear are listed as "threatened" by the US Forest service and "special status" by the BLM; the wolverine and northern goshawk are both listed as "Sensitive" by both the US Forest service and BLM; the BLM lists the Brewer's sparrow as "sensitive"; the uinta chipmuck has a state ranking of "S3" which means "potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas".
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	[N] None have been identified.

IMPACTS ON THE PHYSICAL ENVIRONMENT	
8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	[N] None have been identified.
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project? Will new or upgraded powerline or other energy source be needed)	[N] The wastewater effluent quality has to meet limits that maintain water quality standards.
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?	[N] None have been identified.

IMPACTS ON THE HUMAN ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	[N] Discharged wastewater has to meet effluent limits that were derived using state water quality standard that protect for human health.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[N] No impact is anticipated.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N] SMC is a large employer in south central Montana. The proposed action, to reissue to the permit, will not impact the employment of the mine.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[N] The proposed action, to reissue to the permit, will not impact the tax revenues for the county or state.
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	[N] The proposed action, to reissue to the permit, will not impact the employment of the mine.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N] SMC has a "Good Neighbor" agreement with the Greater Yellowstone Coalition. The proposed action, to reissue to the permit, will not impact locally adopted or facilitated environmental plans and goals.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N] The area is near and on US Forest Service property. However, recreation cannot occur on the property. The proposed action, to reissue to the permit, will not impact the recreational access and wilderness activities in the area.
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N] None have been identified.
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N] None have been identified.
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N] None have been identified.
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N] None have been identified.
22(a). PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	[N] None have been identified.

IMPACTS ON THE HUMAN ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
22(b). PRIVATE PROPERTY IMPACTS: Is the agency proposing to deny the application or condition the approval in a way that restricts the use of the regulated person's private property? If not, no further analysis is required.	See 22(a)
22(c). PRIVATE PROPERTY IMPACTS: If the answer to 21(b) is affirmative, does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives. The agency must disclose the potential costs of identified restrictions.	See 22(a)

23. Description of and Impacts of other Alternatives Considered:

A. Alternative 1: denial of the permit. Potential impacts: unregulated discharges to state water containing important fish and aquatic life populations and critical habitat; an unregulated discharge could cause an excursion from applicable state water quality standards and impact to beneficial uses.

B. Alternative 2: Renewal of MPDES permit with effluent limits and monitoring requirements included biological sampling and reporting. Potential impacts: none – permit limits and monitoring requirements ensure compliance with applicable state water quality standards.

24. Summary of Magnitude and Significance of Potential Impacts: The proposed action will not result in negative environmental impacts. The MPDES permit enforces effluent limits based on protecting water quality by maintaining in-stream water quality standards. Wastewater discharges that meet effluent limits will not cause an excursion from applicable water quality standards.

25. Cumulative Effects: None known

26. Preferred Action Alternative and Rationale: Approve – reissue MPDES permit to ensure discharges comply with state water quality standards.

Recommendation for Further Environmental Analysis:

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

Rationale for Recommendation:

27. Public Involvement: A 30-day public notice of the proposed permit action, issued June 16, 2008 and ending July 16, 2008.

28. Persons and agencies consulted in the preparation of this analysis: See the Statement of Basis for references cited during technical analysis of the proposed action.

EA Checklist Prepared By:

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(Name) Date

Approved By:

_____ _____

Jenny Chambers, Chief Date
Water Protection Bureau